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| 10/041,761 | 01/10/2002 | Bum-Sik Yoon | 1293.1182 | 3182 |
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| STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005 | | | DANG, HUNG Q | |
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DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/041,761

Applicant(s)

YOON ET AL.

Examiner

Hung Q. Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Ando et al. (U.S. Patent 6,373,803), which has an effective priority date of parent U.S. application No. 09/660,556 filed on September 12th, 2000, which fully supports the claimed invention.

Claim 1 recites a recording medium on which content stream data is recorded, comprising: (1) A Stream Object (SOB) formed with Stream Object Units (SOBUs) which has a predetermined size and one or more stream packs; (2) each of the stream packs having an Application Time Stamp (ATS) indicating reproducing time information and an application packet in which content stream data is packed; wherein each of the SOBUs, excluding the last SOBU and SOBUs having stuffing packets, includes at least two entire ATS.

Ando et al. anticipate a stream data generation method; hence, a recording medium on which the stream data is recorded, comprising: (1) A Stream Object (SOB)

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formed with Stream Object Units (SOBUs) (Figs. 1e-1g, column 11, lines 19-20) which has a predetermined size (column 7, lines 36-38; column 10, lines 61-67) and one or more sectors, which correspond to stream packs (column 4, lines 16-18; column 7, lines 34-35, 39); (2) each of the stream packs having one or more transport packet/application packet (column 4, lines 14-16) having an Application Time Stamp (ATS) indicating reproducing time information (column 4, lines 19-20) and an application packet in which content stream data is packed (column 4, lines 14-16); wherein each of the SOBUs (stream blocks), excluding the last SOBU (stream blocks) and SOBUs (stream blocks) having stuffing packets, includes at least two entire ATS (column 17, lines 5-8; column 20, lines 57-59).

Claim 6 recites a recording medium on which content stream data is recorded, comprising: (1) A Stream Object (SOB) formed with Stream Object Units (SOBUs) which has a predetermined size and one or more stream packs; (2) each of the stream packs having an Application Time Stamp (ATS) indicating reproducing time information and an application packet in which content stream data is packed; wherein each of the SOBUs, excluding the last SOBU and SOBUs having stuffing packets, includes at least two entire ATS; and each of the remaining SOBUs having stuffing packets for correction include a predetermined ATS.

Ando et al. anticipate a stream data generation method; hence, a recording medium on which the stream data is recorded, comprising: (1) A Stream Object (SOB) formed with Stream Object Units (SOBUs) (Figs. 1e-1g, column 11, lines 19-20) which has a predetermined size (column 7, lines 36-38; column 10, lines 61-67) and one or

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more sectors, which correspond to stream packs (column 4, lines 16-18; column 7, lines 34-35, 39); (2) each of the stream packs having one or more transport packet/application packet (column 4, lines 14-16) having an Application Time Stamp (ATS) indicating reproducing time information (column 4, lines 19-20) and an application packet in which content stream data is packed (column 4, lines 14-16); wherein each of the SOBUs (stream blocks), excluding the last SOBU (stream blocks) and SOBUs (stream blocks) having stuffing packets, includes at least two entire ATS (column 17, lines 5-8; column 20, lines 57-59); and each of the remaining SOBUs having stuffing packets for correction include a predetermined ATS (column 36, lines 49-54).

Claim 15 recites a recording apparatus to record content stream data as a Stream Object (SOB) formed with at least one Stream Object Unit (SOBU) having a predetermined size and one or more stream packs, each of the stream packs having an Application Time Stamp indicating reproducing time information and an application packet in which content stream data is packed, the recording apparatus comprising: (1) a control unit that generates a mapping list as search information; (2) a clock generation unit that generates a clock value; (3) a buffer unit that attaches the clock value provided from said clock generating unit to received content stream data, and outputs the received content stream data by buffering the content stream data; (4) a stream object unit (SOBU) generating unit which packs the received content stream data output from said buffer unit and generates SOBUS so that each of the SOBUS, excluding a last SOBU, contains at least two entire Application Time Stamps (ATS); (5) and a recording

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unit which records the SOBUS generated by said SOBU generating unit and the mapping list generated by said control unit.

Ando et al. anticipate a recording apparatus (column 13, lines 24-26) to record content stream data as a Stream Object (SOB) formed with at least one Stream Object Unit (SOBU) (Figs. 1e-1g, column 11, lines 19-20) having a predetermined size (column 7, lines 36-38; column 10, lines 61-67) and one or more stream packs (column 4, lines 16-18; column 7, lines 34-35, 39), each of the stream packs having one or more transport packet/application packet (column 4, lines 14-16) having an Application Time Stamp indicating reproducing time information (column 4, lines 19-20) and an application packet in which content stream data is packed (column 4, lines 14-16), the recording apparatus comprising: (1) a control unit (main MPU) that generates a SOBI, which contains a mapping list as search information (column 10, lines 35-38; column 26, lines 38-41); (2) a clock generation unit that generates a clock value (column 20, lines 46-48; column 24, lines 1-8); (3) a buffer unit that attaches the clock value provided from said clock generating unit to received content stream data, and outputs the received content stream data by buffering the content stream data (column 20, lines 46-51); (4) a formatter, which is the stream object unit (SOBU) generating unit which packs the received content stream data output from said buffer unit and generates SOBUs (column 14, lines 57-62) so that each of the SOBUs, excluding a last SOBU, contains at least two entire Application Time Stamps (ATS) (column 17, lines 5-8; column 20, lines 57-59); (5) and a recording unit which records the SOBUs generated by said SOBU

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generating unit and the mapping list generated by said control unit (column 14, lines 63-67; column 15, lines 1-11, column 21, lines 60-65).

Claim 20 recites a recording apparatus for recording content stream data as a Stream Object (SOB) formed with at least one Stream Object Unit (SOBU) having a predetermined size, the recording apparatus comprising: (1) a control unit that generates a mapping list as search information; (2) a clock generation unit that generates a clock value; (3) a buffer unit attaching the clock value provided from said clock generating unit to received content stream data, and outputting the received content stream data by buffering the content stream data; (4) a stream object unit (SOBU) generating unit which inserts a stuffing packet for correction having a predetermined Application Time Stamp (ATS) which has a value the same as an ATS among ATSs included in an SOBU located immediately before one of the SOBUs having no corresponding ATS; and (5) a recording unit which records the SOBUs generated by said SOBU generating unit and the mapping list generated by said control unit.

Ando et al. anticipate a recording apparatus for recording content stream data as a Stream Object (SOB) formed with at least one Stream Object Unit (SOBU) (Figs. 1e-1g, column 11, lines 19-20) having a predetermined size (column 7, lines 36-38; column 10, lines 61-67), the recording apparatus comprising: (1) a control unit (main MPU) that generates a SOBI, which contains a mapping list as search information (column 10, lines 35-38; column 26, lines 38-41); (2) a clock generation unit that generates a clock value (column 20, lines 46-48; column 24, lines 1-8); (3) a buffer unit attaching the clock

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value provided from said clock generating unit to received content stream data, and outputting the received content stream data by buffering the content stream data (column 20, lines 46-51); (4) a formatter, which is stream object unit (SOBU) generating unit (column 14, lines 57-62), which inserts a stuffing packet for correction (column 34, lines 9-10, lines 24-26) having a predetermined Application Time Stamp (ATS) (column 36, lines 49-54) which has a value as determined by the contents of the time map information (column 36, lines 52-54), which records the duration of the SOBU (column 11, lines 41-44); hence said ATS having the same value as an ATS among ATSS included in an SOBU located immediately before one of the SOBUs having no corresponding ATS to maintain the duration of the SOBU before the SOBU having no corresponding ATS ; and (5) a recording unit which records the SOBUs generated by said SOBU generating unit and the mapping list generated by said control unit (column 14, lines 63-67; column 15, lines 1-11, column 21, lines 60-65).

Claim 27 recites a recording apparatus to record an Stream Object (SOB) having one or more Stream Object Units (SOBUs), each of the SOBUS has one or more stream packs arrayed in a row and divided into units of a predetermined size and sequentially assigned, each of the stream packs having an Application Time Stamp (ATS) and an application packet in which content stream data is packed, the recording apparatus comprising: (1) a clock generation unit to generate a clock value; (2) a buffer unit to attach the clock value provided from said clock generating unit to received content stream data, and to output the received content stream data; (3) a stream object unit (SOBU) generating unit to generate SOBUS by packing the received content

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stream data output from said buffer unit; (4) a control unit to generate a mapping list as search information by regarding a last one of the SOBUS which has no corresponding ATS as having a virtual ATS; and (5) a recording unit to record the SOBUS generated by said SOBU generating unit and the mapping list generated by said control unit.

Ando et al. anticipate a recording apparatus (column 13, lines 24-26) to record an Stream Object (SOB) having one or more Stream Object Units (SOBUs), each of the SOBUS has one or more stream packs arrayed in a row and divided into units of a predetermined size and sequentially assigned (fig. 1; column 4, lines 16-18; column 7, lines 34-35, 39), each of the stream packs having an Application Time Stamp (ATS) (column 4, lines 19-20) and an application packet in which content stream data is packed (column 4, lines 14-16), the recording apparatus comprising: (1) a clock generation unit to generate a clock value (column 20, lines 46-48; column 24, lines 1-8); (2) a buffer unit to attach the clock value provided from said clock generating unit to received content stream data, and to output the received content stream data (column 20, lines 46-51); (3) a formatter, which is a stream object unit (SOBU) generating unit to generate SOBUs by packing the received content stream data output from said buffer unit (column 14, lines 57-62); (4) a main MPU, which is the control unit, to generate a SOBI, which contains a mapping list as search information (column 10, lines 35-38; column 26, lines 38-41) by regarding a last one of the SOBUs which has no corresponding ATS as having a virtual ATS (column 36, lines 48-54); and (5) a recording unit to record the SOBUS generated by said SOBU generating unit and the

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mapping list generated by said control unit (column 14, lines 63-67; column 15, lines 1-11, column 21, lines 60-65).

Claim 28 recites the control unit generating a mapping list (column 26, lines 46-56) having an incremental application packet arrival time (IAPAT) obtained by regarding a last application packet included in the SOB as having a virtual ATS.

Ando et al. anticipate the control unit generating a mapping list having an incremental application packet arrival time (IAPAT) (column 11, lines 36-43, fig. 5; column 22, lines 4-8) obtained by regarding a last application packet included in the SOB as having a virtual ATS (column 36, lines 29-35, lines 48-54).

Claim 29 recites a reproducing apparatus to reproduce content stream data from a recording medium on which content stream data is recorded as an Stream Object (SOB) formed with at least one Stream Object Unit (SOBU) having a predetermined size and one or more stream packs, each of the stream packs having an Application Time Stamp (ATS) indicating reproducing time information and an application packet in which content stream data is packed, each of the SOBUS, excluding a last SOBU and SOBUS having stuffing packets, includes at least two entire ATSs, the reproducing apparatus comprising: a reading unit to read a mapping list as search information and a corresponding SOBU, where the mapping list has search information generated by regarding the last SOBU as an SOBU having a virtual ATS; a control unit to control the reading unit to read the corresponding SOBU, referring to the mapping list read by the reading unit; a clock generating unit to generate a clock value; an SOBU analyzing unit to extract content stream data by analyzing the SOBU read by said reading unit; and a

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buffering unit to output the content stream data from the SOBU analyzing unit by buffering the content stream data based on a clock value provided by said clock generating unit.

Ando et al. anticipate a reproducing apparatus (column 13, lines 24-26) to reproduce content stream data from a recording medium on which content stream data is recorded as an Stream Object (SOB) formed with at least one Stream Object Unit (SOBU) having a predetermined size and one or more stream packs (column 4, lines 16-18; column 7, lines 34-35, 39), each of the stream packs having an Application Time Stamp (ATS) indicating reproducing time information (column 4, lines 19-20) and an application packet in which content stream data is packed (column 4, lines 14-16), each of the SOBUs, excluding a last SOBU and SOBUs having stuffing packets, includes at least two entire ATSs (column 17, lines 5-8; column 20, lines 57-59), the reproducing apparatus comprising: (1) a stream data playback controller, which is a reading unit, to read a mapping list as search information and a corresponding SOBU, where the mapping list has search information (column 22, lines 33-37; 44-56) generated by regarding the last SOBU as an SOBU having a virtual ATS (column 36, lines 29-35, lines 48-54); (2) a main MPU, which is a control unit, to control the reading unit to read the corresponding SOBU, referring to the mapping list read by the reading unit (column 22, lines 33-41); (3) a clock generating unit to generate a clock value (column 20, lines 46-48; column 24, lines 1-8); (4) an separator, which is a SOBU analyzing unit, to extract content stream data by analyzing the SOBU read by said reading unit (column 23, lines 23-29); and (5) a buffering unit to output the content stream data from the

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SOBU analyzing unit by buffering the content stream data based on a clock value provided by said clock generating unit (column 20, lines 46-51).

Claim 21 recites all SOBUs, excluding a last SOBU, have at least two entire ATSs, which is anticipated by Ando et al. (column 17, lines 5-8; column 20, lines 57-59).

Claim 22 recites said SOBU generating unit including a stuffing packet for correction in the last SOBU, which is anticipated by Ando et al. (column 20, lines 60-62).

Claims 7 and 23 recite the stuffing packets for correction are recorded continuously after a last application packet included in the SOB, which is clearly anticipated by Ando et al. (column 34, lines 25-26).

Claim 8 and 24 recite the predetermined ATS included in the stuffing packet for correction has the same value as an ATS included in the last stream pack, which is anticipated by Ando et al. (column 36, lines 49-51).

Claims 9, 25 and 10, 26 recite the stuffing packet for correction further includes a payload in which predetermined data is recorded or no data is recorded, and a "0" is recorded respectively, which is anticipated by Ando et al. (column 36, lines 23-26).

Claims 2, 11, and 16 recite the size of the application packet is small enough so that the SOBUs, excluding the last SOBU and the SOBUs having stuffing packets, includes at least two entire ATS, which is clearly anticipated by Ando et al. (column 17, lines 5-8; column 20, lines 57-59).

Claim 3, 12, 17 and 4, 13, 18 recite the size of the application packet satisfies the equation: $AP_PKT_SZ \leq SPayload_SZ \times \{SOBU_SZ/2\} - \{cell((N_AHE + N_SByte)/2) + ATS_SZ\}$; and

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$$AP_PKT_SZ \leq 2018 \times \{SOBU_SZ\} - 6, \text{ respectively}$$

where AP_PKT_SZ denotes the size of the application packet, ATS_SZ denotes a size of an ATS which is formed in units of bytes, $SOBU_SZ$ denotes a size of an SOBU, $SPayload_SZ$ denotes a size of a data space containing information excluding a fixed header area of a stream pack, N_AHE denotes a number of application header extensions of a corresponding SOBU, and N_SByte denotes a number of stuffing bytes of a corresponding SOBU.

Ando et al. anticipate the size of a stream pack or sector being 2048 bytes (Fig. 26; column 17, line 5) and each of the data area, after various header sizes are subtracted, can record approximately 10 transport packets (or application packets) (column 17, lines 5-8), each of which having an application time stamp (ATS) at its head position (column 33, lines 65-67). Based on this anticipation, the following condition is established:

$$10 \times (AP_PKT_SIZE + ATS) \leq 2027, \text{ or equivalent}$$

$$AP_PKT_SZ \leq 2027 - 10 \text{ ATS.}$$

Under this observation, the claimed range obviously overlap the range disclosed by Ando et al., thus is anticipated (MPEP 2131.03).

Claims 5, 14, 19, and 30 recite a MAPping List (MAPL) having an Incremental Application Packet Arrival Time (IAPAT) indicating a duration of the corresponding SOBU as search information indicating which of the SOBUs are included in a corresponding SOB.

Ando et al. anticipate a MAPping List (MAPL) (column 26, lines 46-56) having an Incremental Application Packet Arrival Time (IAPAT) indicating a duration of the corresponding SOBU (column 11, lines 36-43, fig. 5; column 22, lines 4-8) as search information indicating which of the SOBUs are included in a corresponding SOB (column 22, lines 42-56).

Claim 31 recites the predetermined ATS included in the stuffing packet for correction has the same value as an ATS included in the last stream pack of the SOBUs, which is anticipated by Ando et al. (column 36, lines 49-51).

Claim 32 recites the stuffing packet for correction further includes a payload in which predetermined data is recorded or no data is recorded, which is anticipated by Ando et al. (column 36, lines 23-26).

Claim 33 recites an apparatus comprising: (1) a recording apparatus to record a stream object formed with at least one stream object units (SOBUS) in which content stream data having one or more stream packs are recorded, each of the stream packs including an application packet having an application time stamp and the content stream data packed therein, said recording apparatus including: (1) a recording control unit to generate a mapping list as search information; (2) a clock generation unit to generate a clock value; (3) a buffer unit to buffer input content stream data, to add the clock value provided by the clock generation unit to the input content stream data, and to output a result; (4) a Stream Object Unit (SOBU) generating unit to generate the SOBUs, each of the SOBUs, excluding a last one of the SOBUs and SOBUs having stuffing packets, includes at least two entire ATSSs; and (5) a recording unit to record the plurality of

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generated SOBUS and the mapping list on a recordable recording medium, and (6) a reproducing apparatus to reproduce data from a reproduceable recording medium, the reproducing apparatus including: (i) a reading unit to read the mapping list as search information; and (ii) a reproducing control unit to search for a corresponding SOBU by referring to a generated search information and regarding a value of the predetermined application time stamp as the value of an application time stamp for the last one of the SOBUS in the stream object when referring to the read mapping list.

Ando et al. anticipate an apparatus comprising: (1) a recording apparatus (column 13, lines 24-26) to record a stream object formed with at least one stream object units (SOBUs) (Figs. 1e-1g; column 11, lines 19-20) in which content stream data having one or more stream packs are recorded (column 4, lines 16-18; column 7, lines 34-35, 39), each of the stream packs including an application packet (column 4, lines 14-16) having an application time stamp (column 4, lines 19-20) and the content stream data packed therein (column 4, lines 14-16), said recording apparatus including: (1) a recording control unit to generate a mapping list as search information (column 10, lines 35-38; column 26, lines 38-41); (2) a clock generation unit to generate a clock value (column 20, lines 46-48; column 24, lines 1-8); (3) a buffer unit to buffer input content stream data, to add the clock value provided by the clock generation unit to the input content stream data, and to output a result (column 20, lines 46-51); (4) a formatter, which is a Stream Object Unit (SOBU), generating unit to generate the SOBUs (column 14, lines 57-62), each of the SOBUs, excluding a last one of the SOBUs and SOBUs having stuffing packets, includes at least two entire ATSS (column 17, lines 5-8; column

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20, lines 57-59); and (5) a recording unit to record the plurality of generated SOBUS and the mapping list on a recordable recording medium (column 14, lines 63-67; column 15, lines 1-11; column 21, lines 60-65), and (6) a reproducing apparatus (column 13, lines 24-26) to reproduce data from a reproduceable recording medium, the reproducing apparatus including: (i) a stream data playback controller, which is a reading unit, to read the mapping list as search information (column 22, lines 33-37, 44-56); and (ii) a reproducing control unit to search for a corresponding SOBU by referring to a generated search information (column 22, lines 33-56) and regarding a value of the predetermined application time stamp as the value of an application time stamp for the last one of the SOBUs in the stream object when referring to the read mapping list (column 36, lines 48-54).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is 571-270-1116. The examiner can normally be reached on M-Th:7:30-5:00; every other Friday: 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on 571-272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink that reads "Hung Dang" followed by a small, stylized mark that appears to be "HED".

Hung Dang.
Patent Examiner

A handwritten signature in black ink that reads "Shanon A. Foley".

SHANON A. FOLEY
SUPERVISORY PATENT EXAMINER